

Application No. : 09/975,142
Filed : October 10, 2001

IN THE CLAIMS

5 Please cancel Claims 28-31, 46-57 and 59 without prejudice, and amend Claims 4-6, 8, 20, 26 and 38 as follows:

1. (Original) Apparatus for providing power to at least one subscriber via a telecommunications line, comprising:

10 a power converter operatively coupled to said telecommunications line and adapted to generate a voltage on said line;

 a gateway module having modulator/demodulator apparatus operatively coupled to said telecommunications line, said module being adapted to extract power from said voltage on said telecommunications line; and

15 at least one adapter unit operatively coupled to said telecommunications line and further configured to extract power from said voltage and provide said power to an extension device.

2. (Original) The apparatus of Claim 1, wherein said gateway module further comprises a controller operatively coupled to said power converter, said controller cooperating with said power converter to regulate the power provided via said telecommunications line.

20 3. (Original) The apparatus of Claim 2, wherein said controller communicates with said power converter via said telecommunications line to regulate at least the voltage applied to said line by said power converter.

 4. (Currently amended) The apparatus of Claim [1] 2, wherein said gateway module further comprises a power line interface in data communication with said
25 modulator/demodulator, said power line interface adapted to transmit data over at least one power line local to said gateway module.

 5. (Currently amended) The apparatus of Claim [1] 2, wherein said gateway module further comprises a wireless interface in data communication with said modulator/demodulator and adapted to at least receive radio frequency signals from a remote device.

30 6. (Currently amended) The apparatus of Claim [1] 2, wherein said at least one adapter unit is self-installable by said at least one subscriber.

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7. (Original) The apparatus of Claim 6, wherein said gateway module is self-installable by said at least one subscriber.

8. (Currently amended) The apparatus of Claim [1] 7, wherein said power converter further comprises a ground fault detector circuit adapted to detect faults on said
5 telecommunications line.

9. (Original) A digital subscriber line (DSL) apparatus, comprising:
modulator/demodulator apparatus adapted to receive and transmit signals over at least one telecommunications line; and

power extraction circuitry operatively coupled to said telecommunications line and
10 adapted to generate power for said modulator/demodulator apparatus from voltage applied to said line.

10. (Original) The DSL apparatus of Claim 9, further comprising an interface module operatively coupled to a power line and said modulator/demodulator apparatus, said interface module being adapted to transmit and receive data over said power line.

15 11. (Original) The DSL apparatus of Claim 10, wherein said power line comprises a single-phase alternating current (AC) power distribution line.

12. (Original) The DSL apparatus of Claim 11, wherein said interface module is compliant with the HomePlug Powerline Alliance 1.0 Specification.

13. (Original) The DSL apparatus of Claim 9, further comprising a local network
20 interface adapted to communicate with at least one other node in data communication with said DSL apparatus.

14. (Original) The DSL apparatus of Claim 13, wherein said local network interface comprises a home phone network (HPN) gateway adapted to communicate with said at least one node via installed telephone wiring.

25 15. (Original) The DSL apparatus of Claim 9, further comprising a wireless interface in data communication with said at least one telecommunications line and said modulator demodulator apparatus, said wireless interface being configured to receive data from a portable device and communicate said data to said modulator/demodulator apparatus.

16. (Original) The DSL apparatus of Claim 15, wherein said wireless interface is
30 compliant with the Bluetooth 2.4 GHz wireless standard.

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17. (Original) The DSL apparatus of Claim 15, wherein said wireless interface is compliant with IEEE Std. 802.11.

18. (Original) The DSL apparatus of Claim 15, wherein said wireless interface utilizes direct sequence spread spectrum having a pseudo-noise (pn) spreading code.

5 19. (Original) The DSL apparatus of Claim 9, further comprising a wireless interface in data communication with said at least one telecommunications line and said modulator demodulator apparatus, said wireless interface being configured to receive data from a portable device and communicate said data to said modulator/demodulator apparatus.

10 20. (Currently amended) The DSL apparatus of Claim 9, wherein said apparatus is adapted to receive signals having frequencies down to approximately 200Hz.

21. (Original) A method of providing power over a communications line to a subscriber, comprising:

15 providing a power source operatively coupled to a first node of said line;
providing a power extractor operatively coupled to a second node of said line;
generating a voltage on said line using said power source;
generating power at said second node using said voltage and said power extractor.

22. (Original) The method of Claim 21, further comprising regulating said voltage applied to said line based at least in part on signals generated at said second node.

20 23. (Original) The method of Claim 21, further comprising adjusting said voltage applied to said line based at least in part on the distance between said first node and said second node.

24. (Original) The method of Claim 22, further comprising adjusting said voltage applied to said line based at least in part on the distance between said first node and said second node.

25 25. (Original) The method of Claim 21, further comprising:
providing a plurality of power extractors at respective ones of a plurality of additional nodes, said additional nodes being in electrical communication with said second node at the location of said subscriber;

extracting power from said line using said plurality of power extractors; and
distributing said extracted power to respective ones of a plurality of extension devices coupled to respective ones of said power extractors.

30 26. (Currently amended) The method of Claim [21] 25, further comprising:
detecting ground faults present on said telecommunications line; and

in response to said detected faults, controlling the operation of said power source.

27. (Original) The method of Claim 21, further comprising controlling the polarity of said voltage generated on said telecommunications line in order to mitigate the corrosion thereof.

28.- 31. (Cancelled)

5 32. (Original) Telecommunications apparatus, comprising:

a telephonic device; and

line power circuitry in electrical communication with said telephonic device, said circuitry adapted to derive power from a telecommunications line to which said apparatus is operatively coupled, and provide said power to said telephonic device.

10 33. (Original) The apparatus of Claim 32, wherein said telephonic device comprises a multi-line telephone.

34. (Original) The apparatus of Claim 33, wherein said telecommunications line carries at least one derived telephone line.

15 35. (Original) The apparatus of Claim 34, further comprising selection apparatus adapted to select one or more of said at least one derived telephone lines.

36. (Original) The apparatus of Claim 35, wherein said selection apparatus comprises a switch.

20 37. (Original) The apparatus of Claim 35, wherein said selection apparatus comprises an address generator, said address generator generating at least one unique address, said at least one unique address being used to select said derived telephone line associated with said telecommunications apparatus.

38. (Currently amended) The apparatus of Claim [32] 37, wherein said line power circuitry is further adapted to:

(i) automatically sense the configuration of said telephonic device; and

25 (ii) alter the operation of said line power circuitry in response to said sensed configuration.

39. (Original) Apparatus for providing power to at least one subscriber via a telecommunications line, comprising:

a low frequency splitter operatively coupled to said telecommunications line;

30 a power conversion circuit adapted to generate electrical potential and apply such potential to said telecommunications line via said splitter; and

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a power control circuit operatively coupled to said low frequency splitter and said power conversion circuit, said control circuit adapted to control said electrical potential applied to said line based at least in part on one or more parameters.

40. (Original) The apparatus of Claim 39, wherein said low frequency splitter comprises
5 a plurality of inductors.

41. (Original) The apparatus of Claim 40, wherein the inductance values of said inductors are selected so as to provide a resonance condition for optimal response at a designated frequency.

42. (Original) The apparatus of Claim 40, wherein said power generation circuit provides
10 at least a portion of the total inductance of said apparatus.

43. (Original) The apparatus of Claim 39, further comprising ground fault detection circuitry operatively coupled to said power conversion circuit such that the output of said power conversion circuit is controlled under ground fault conditions.

44. (Original) The apparatus of Claim 39, further comprising a regulator operatively
15 coupled to said power conversion circuit and adapted to control the magnitude of said electrical potential.

45. (Original) The apparatus of Claim 44, wherein said regulator is further adapted to control the polarity of said voltage.

46.-57. (Cancelled)

20 58. (Original) Apparatus for providing power to at least one subscriber via a telecommunications line, comprising:

power conversion means operatively coupled to said telecommunications line for generating a voltage on said line;

modulator/demodulator means operatively coupled to said telecommunications line;

25 means for extracting power from said voltage on said telecommunications line; and

at least one adapter unit operatively coupled to said telecommunications line and further configured to extract power from said voltage and provide said power to an extension device.

59. (Cancelled)